

Strong Focusing in a Linear Accelerator

77242

SOV/89-8-2-7/30

(Candidate of Physico-Mathematical Sciences) showed constant interest and discussed the experiments. There are 7 figures; and 4 references, 1 Soviet, 3 U.S. The U.S. references are: L. Smith, R. Gluckstern, Rev. Scient. Instrum., 26, 220 (1955); T. Blewett, Phys. Rev., 88, 1197 (1952); E. Courant, M. Livingston, H. Snyder, Phys. Rev., 88, 1190 (1952).

SUBMITTED: April 27, 1959

Card 15/15

BOLOTIN, L.I.; KLYUCHAREV, A.P.; KULYGIN, Yu.F.; RANYUK, Yu.N.;  
REVUTSKIV, Ye.I.; RUTKEVICH, N.Ya.

Interaction between the ions of carbon and the nuclei of the  
photoemulsion. Izv. AN SSSR Ser. fiz. 24 no.12:1502-1504 D '60.  
(MIRA 13:12)

1. Fiziko-tehnicheskiy institut AN USSR.  
(Photography, Particle track)  
(Carbon)

28429

S/185/61/006/002/001/020  
D210/D304

24.6731

AUTHORS: Bolotin, L.Y., Bomko, V.O., and Revut's'kyy, Ye.I.

TITLE: High frequency characteristics of a "long" resonator  
for linearly accelerating heavy particlesPERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961,  
157 - 161

TEXT: The authors investigated the difference between the principal oscillation  $E_{010}$  wave, used for accelerating, and the neighboring  $E_{011}$  waves of a drift tube resonator. The work was done on a new, 10 MeV, ion accelerator built in one section, 18 m long, at the Technical Physics Institute of the AS UkrSSR. With a wavelength of 2 m it was necessary to insert 101 drift tubes into the resonator. When the resonator is empty its electrical length is  $N = L/\lambda_0$ ,  $L$  -- physical length of resonator;  $\lambda_0$  -- wavelength of  $E_{010}$ . This can be compared with the electrical length

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X

## High frequency characteristics ...

of the Berkeley resonator of 8.3. The authors first determined the quality factor and the shunt impedance of their accelerator. The quality factor, given by

$$Q = \frac{W}{w_0 P} \quad (1)$$

where  $W$  - energy accumulated in the resonator,  $P$  - mean power losses, was determined by exciting the resonator with a special generator allowing wide frequency separation. Amplitude of the vibrations generated in the resonator was determined by measuring the current from a magnetic detector probe with a sensitive microammeter. From the experimental resonance curves (relative probe current against frequency difference) the quality factor was determined by dividing the frequency of the working vibration by the width of the resonance curve at the height of 0.71. The quality factors for the empty and the loaded resonators were found to be 122,000 and 69,000, and the half width 1.95 and 3.8 kc/s respectively. The quality factor for the empty resonator was also calculated theoreti-

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High frequency characteristics ...

cally from the formula

$$Q = 10^{5.5/2} \cdot (1 + R/L) \quad (3)$$

where R - radius of the resonator, L - length of the resonator. The calculated value was 138,000, the discrepancy being explained by possible differences in the quality of copper and its surface, and also by the fact that the resonator is not round but sixteen-sided. The shunt impedance was determined on a model resonator 1 m long and of the same diameter as the working one. The shunt impedance was found to be 20 Mohm/m. Of all the oscillations  $E_{mn1}$  and  $H_{mn1}$  which can occur in the space of the resonator  $E_{011}$  are of the greatest importance as these are close to the principal oscillation  $E_{010}$  used for accelerating the particles. The authors investigated the behavior of  $E_{011}$ , using the general equation for the wave frequencies in an unloaded resonator

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High frequency characteristics ...

$$f_{mn} = c \sqrt{\left(\frac{v_{mn}}{2\pi R}\right)^2 + \left(\frac{l}{2L}\right)^2} \quad (5)$$

where  $v_{mn}$  - roots of the derived Bessel functions; R - radius of the resonator; L - length of the resonator; m, n, l - integers specifying the number of half waves along the semi-perimeter, the radius, and the length of the resonator. The effect of the electrical length of the resonator, N, on the relative frequency displacement,  $\Delta f_e/f_o = (f_1 - f_o)/f_o$  was obtained theoretically by modifying expression (5) to

$$(f_1 - f_o)/f_o = l^2/8N^2 \quad (6)$$

[Abstractor's note: In the original  $\Delta f_1$  was wrongly defined as  $\Delta f_1 = (f_1 - f_o)/f_o$ . Results of these calculations show that the

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High frequency characteristics ...

separation between the frequencies decreases sharply as the electrical length increases. For a 2 m wave in a 18 m resonator the difference between the principal and the nearest frequencies is only 230 kc/s. The experimental results for the resonator loaded with drift tubes are given in tabulated form, and show that the difference between the frequencies of  $E_{010}$  and  $E_{011}$  amounts to only 93.8 kc/s as compared to the calculated difference of 230 kc/s. The authors state that the insertion of the drift tubes into the resonator is equivalent to extending its electrical length, at least as far as the difference between the principal and the nearest neighbor field intensities is concerned. Thus, for the loaded resonator  $N = 13.8$  which corresponds to an unloaded length of 27 m for  $\lambda_0 = 2$  m. The authors finally point out that the appearance of possible vibration modes close to the principal ones may seriously impede the input of high frequency energy when the energy source is an autogenerator. There is always danger of a drift or even a jump to the neighboring frequency. This is aggravated by the fact that

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High frequency characteristics ...

at the ends of the resonator the amplitude of the neighboring frequencies is nearly 1.5 times greater than that of the principal one, and it is at the ends of the resonator that the generators drift towards the neighboring frequency  $f_1$ . There are 5 figures,

1 table, and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The 2 references to the English-language publications read as follows: E.A. Day, R.P. Featherstone, L.H. Jonston, E.E. Lampi, E.B. Tucker, and J.H. Williams, Rev. of Sc. Instr. 29, N 6, 1958, p. 457; L.W. Alvarez, H. Bradner, J.V. Frack, H. Gordon, J.D. Gow, L.C. Marshall, Openheimer, W. Panowsky, C. Richman and J.R. Woodyard Rev. of Sc. Instr., 26, N 2, 1955.

ASSOCIATION: Fizyko-tehnichnyy instytut, AN URSR, m. Kharkiv  
(Technical Physics Institute, AS UkrSSR, Khar'kov)

SUBMITTED: July 18, 1960

Card 6/6

28430

S/185/61/006/002/002/020  
D210/D304

24.6731

AUTHORS: Bolotin, L.Y., Bomko, V.O., and Revuts'kyy, Ye.I.

TITLE: Smoothing of the accelerating field in a "long" resonator for linearly accelerating heavy particles X

PERIODICAL: Ukrayins'kyy fizichnyy zhurnal, v. 6, no. 2, 1961, 163 - 166

TEXT: The author described methods of accurately levelling a field of large electrical length. The levelling was done on a resonator 18 m long loaded with 101 drift tubes and having an electrical length of  $N = 13.8$ . This problem had to be studied specially because of the difficulty of aligning fields in resonators containing many drift tubes. For making field measurements the resonator was excited with a highly stable generator. The electric field strength at the axis of the resonator was determined by measuring the magnetic field at its surface, using a magnetic probe. The measurements were carried out on a compensating bridge and were

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Smoothing of the accelerating ...

accurate to about 0.1 %. The levelling of the field along the accelerating path can be achieved either by varying the drift tube diameter along the resonator, or by tuning discs attached to the drift tubes. Although the latter method reduces the high frequency energy ( $\sim 20 \%$ ) it was adopted because of its convenience for field levelling. The diameter of the tuning discs was chosen at 20 cm. This allowed satisfactory tuning for each segment of the resonator. The first step in the alignment was to determine the frequency characteristics for the drift tubes, 8 cm diameter, and discs, 20 cm diameter. This was done on an experimental resonator with a diameter of 1.5 m and 1 m long, and the results are shown in Fig. 2. Using these curves the resonator field was adjusted at a frequency of 142.5 Mc/s to within  $\pm 10 \%$  of the average. The second step of the alignment was to use the method of harmonic analysis which is based on the expansion of waves  $E_{01\ell}$  into Fourier series. Using this method the authors levelled the electric field in the resonator to within  $\pm 1 \%$ , although the electrical length of the resonator is 1.5 times greater than that of the longest

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Smoothing of the accelerating ...

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D210/D304

existing resonator at Berkeley. There are 5 figures, and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: L.W. Alvarez et al. Ref. of Sc. Instr., 26, N2, 1955, p 111.

ASSOCIATION: Fizyko-tekhnichnyy instytut, AN URSR, m. Kharkiv  
(Technical Physics Institute, AS UkrSSR, Khar'kov) X

SUBMITTED: July 18, 1960

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31717

S/057/61/031/012/003/013  
B108/B138

24-6730

AUTHORS:

Bolotin, L. I., Bomko, V. A., Revutskiy, Ye. I., and  
Sidorenko, I. S.

TITLE: H-mode accelerator

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 12, 1961, 1426-1430

TEXT: The Berkeley type linear accelerators working on the  $E_{010}$  mode have several disadvantages. An  $H_{111}$ -mode linear accelerator is suggested. A particular feature of such an accelerator is the much lower resonance frequency. 8-cm wide drift tubes are connected to opposite sides of the cylindrical copper resonator (75 cm wide, 120 cm long). The electrical field has a sinusoidal distribution along the resonator. The best way of preventing the maximum of the  $E_z$  component in the loaded resonator from moving toward the smaller accelerating gaps is either to change the ratio  $\alpha = \frac{\delta}{L}$  ( $\delta$  = gap length,  $L$  = length of accelerating section or to change the inductance of the accelerating units. The increase in the length of the Card 1/2

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S/057/61/031/012/003/013  
B108/B138

H-mode accelerator

accelerating sections from period to period was calculated from the formula

$$\Delta L_n = \frac{e\bar{E}_{\max} \lambda^2}{4mc^2} G_n \cos \varphi_s \sin \frac{\pi z}{h} \text{ where } \bar{E}_{\max} \text{ denotes the maximum of the time}$$

average of electrical field strength,  $G_n$  = field consumption factor at the n-th gap,  $\varphi_s$  = synchronous phase. The plant yielded protons with energies of 1.5 - 2 Mev which is in good agreement with the theoretical calculations. The Q factor was 6250. The shunt resistance was 28 megohms, which requires an h.f.-power of some 20 kw for acceleration. The device described can be used for the acceleration of heavy ions (carbon, nitrogen, oxygen, neon, etc) with low initial energies ( $\beta \approx 0.01$ ). There are 3 figures, 1 table, and 4 references: 1 Soviet and 3 non-Soviet.

SUBMITTED: February 4, 1961

Card 2/2

X

L 42952-65 ENT(1)/ENT(m)/EPA(w)-2/EEC(b)-2/EWP(1)/EMA(h) PI-4/PJ-4/Pm-4/  
Feb-10/Fac-4/Pt-7/Feb IJP(c)

ACCESSION NR: AP5010813

UR/0057/65/035/004/0748/0750

AUTHOR: Sidorenko, I. S.; Revutskiy, Ye. I.

TITLE: Investigation of properties of superconducting resonators at  
a frequency of 1100 megacycles

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 748-750

TOPIC TAGS: resonator<sup>25</sup>, superconducting resonator, particle accelerator,  
commercial lead, lead resonator, hf resonator

ABSTRACT: An investigation is made of the possibility of using an ordinary commercial lead (type B-2) as a material for the resonator of a particle accelerator. Preliminary results of tests at a frequency of 1100 megacycles are summarized. Surface resistance, determined by measuring the resonator Q-factor (a function of the rise of induced oscillations and the attenuation time of free oscillations in the resonator) decreased by 6-7 orders of magnitude from the value at 300K (330) when the resonator was cooled down to 4.2K. The resonator and its cooling equipment are shown in Figs. 1 and 2 of the Enclosure, respectively. The resonator, which consists of a section quarter-wave

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L 42952-65

ACCESSION NR: AP5010813

coaxial line, has a natural frequency of 1100 megacycles. It can be used in accelerators in which the maximum magnetic field is less than 500 gauss. Such resonators can be used as tank circuits of master oscillators and as hf filters for frequency stabilization. Orig. art. has: 5 formulas and 2 figures.

[YK]

ASSOCIATION: none

SUBMITTED: 26Jun64

ENCL: 02 SUB CODE: EC, NP

NO REF SOV: 002

OTHER: 000 ATD PRESS: 3236

Card 2/4

IVANOV, Vadim Nikolayevich, akademik; MAKARCHENKO, A.F., prof., akademik, otv. red.; BURCHINSKIY, G.I., prof., red.; PELESHCHUK, A.P., prof., red.; PUTILIN, N.I., prof., red.; REVUTSKIY, Ye.L., st. nauchn. sotr., red.; SKOPICHENKO, N.F., dots., red.; CHEBOTAREV, D.F., prof., red.; OMEL'CHENKO, A.T., st. nauchn. sotr., red.; MATYASHEVSKAYA, T.I., red.

[Selected works] Izbrannye trudy. Kiev, Naukova dumka, 1965. 334 p. (MIRA 18:8)

1. Deystvitel'nyy chlen AMN SSSR (for Ivanov).
2. AN Ukr. SSR (for Makarchenko, Ivanov).
3. Chlen-korrespondent AMN SSSR (for Chebotarev).

L 58399-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/ENG(v)/ENG(a)-2/ENG(c) , Pe-5 DD  
ACCESSION NR: AP5014839 UR/0238/65/011/003/0380/0384

AUTHOR: Revuts'kyy, Ye. L. (Revutskiy, Ye. L.)

TITLE: The effect of HF, VHF, and UHF on the secretory and excretory functions of the human stomach

SOURCE: Fiziologichnyy zhurnal, v. 11, no. 3, 1965, 380-384

TOPIC TAGS: HF, UHF, VHF, biological effect, human physiology, gastrointestinal tract, stomach secretion, hydrochloric acid

ABSTRACT: The effect of HF (13.56 Mc/s), VHF (39—41 Mc/s), and UHF (2375 Mc/s) was studied, using human subjects exposed to inductothermal- and microwave-therapy generators. The fields were applied locally to the anterior abdominal wall. The strength of the fields was weakly or moderately thermal. Some results of the experiment are given in Table 1 of the Enclosure. It was found that HF and UHF stimulated HCl production under conditions of normal or deficient secretion and decreased its production under conditions of increased secretion. Stomach pepsin secretion was stimulated by HF and UHF. In general, VHF had the same effect as HF. Changes in dye excretion by the stomach corresponded to changes in acid production.  
Orig. art. has: 2 tables.

28

27

B

[CD]

Card 1B

L 58399-65

ACCESSION NR: AP5014839

ASSOCIATION: Viddil klinichnoyi fiziologiyi Instytutu fiziologiyi im. O. O. Bohomol'tsya Akademiyi nauk URSR, Kiev (Division of Clinical Physiology, Institute of Physiology, Academy of Sciences, URSR)

SUBMITTED: 05Jan65

ENCL: 01

SUB CODE: LS

NO REF SOV: 012

OTHER: 006

ATD PRESS: 4043

Card 2/3

L 58399-65

ACCESSION NR: AP5014839

ENCLOSURE: 01

Table 1. Changes in HCl production and amount of pepsin in the period following secretion

Type of test	HCl (mg)			Amount of pepsin (mg)
	Decreased secretion	Normal secretion	Increased secretion	
	n M±m	n M±m	n M±m	
Control	10 7.56±2.15	10 64.92±12.21	12 218.24±29.6	14 44.71±55.43
HF	10 14.92±7.29	8 88.5±13.56	12 198.0±29.2	11 516.57±67.73
	10 29.2±2.58	8 74.22±10.1	12 146.89±35.92	11 296.36±16.34
Control UHF	32.29±7.05	73.79±12.89	123.17±26.63	390.55±40.12

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L 1;2952-65 EWT(1)/EWT(m)/EPA(w)-2/EFC(b)-2/EPF(1)/EWA(h) Pi-4/Pj-4/Pm-4/  
Pao-10/Pac-4/Pt-7/Peb IJP(c)

ACCESSION NR: AP5010813

UR/0057/65/035/004/0748/0750

AUTHOR: Sidorenko, I. S.; Revutskiy, Ye. I.

1 56

B

TITLE: Investigation of properties of superconducting resonators at  
a frequency of 1100 megacycles

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 748-750

TOPIC TAGS: resonator<sup>25</sup>, superconducting resonator, particle accelerator,  
commercial lead, lead resonator, hf resonator

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ABSTRACT: An investigation is made of the possibility of using an ordinary commercial lead (type B-2) as a material for the resonator of a particle accelerator. Preliminary results of tests at a frequency of 1100 megacycles are summarized. Surface resistance, determined by measuring the resonator Q-factor (a function of the rise of induced oscillations and the attenuation time of free oscillations in the resonator) decreased by 6—7 orders of magnitude from the value at 300K (330) when the resonator was cooled down to 4.2K. The resonator and its cooling equipment are shown in Figs. 1 and 2 of the Enclosure, respectively. The resonator, which consists of a section quarter-wave Card 1/4

L 42952-65

ACCESSION NR: AP5010813

coaxial line, has a natural frequency of 1100 megacycles. It can be used in accelerators in which the maximum magnetic field is less than 500 gauss. Such resonators can be used as tank circuits of master oscillators and as hf filters for frequency stabilization. Orig. art. has: 5 formulas and 2 figures. [YK]

ASSOCIATION: none

SUBMITTED: 26Jun64

ENCL: 02

SUB CODE: EC, NP

NO REF Sov: 002

OTHER: 000

ATD PRESS: 3236

Card 2/4

L 42952-65

ACCESSION NR: AP5010813

ENCLOSURE: 01

O

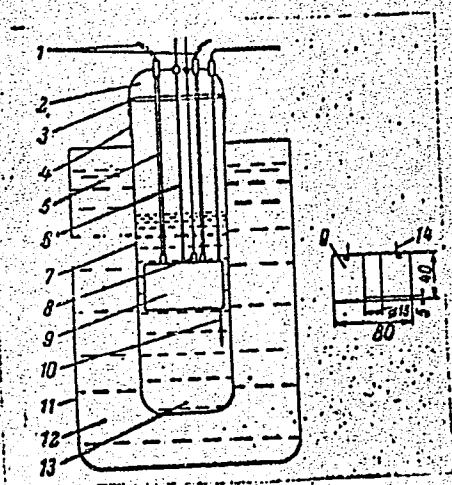


Fig. 1. Resonator

1 - PK -1 cable; 2 - lid; 3 - plastic  
foam ring; 4 - rubber collar; 5 - ac  
link conduit; 6 - resonator suspen-  
sion rod; 7 - Dewar flask; 8 - gas  
temperature sensor; 9 - test reson-  
ator; 10 - overflow; 11 - Dewar  
flask; 12 - nitrogen; 13 - helium;  
14 - antenna.

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L 42952-65  
ACCESSION NR: AP5010813

ENCLOSURE: 02

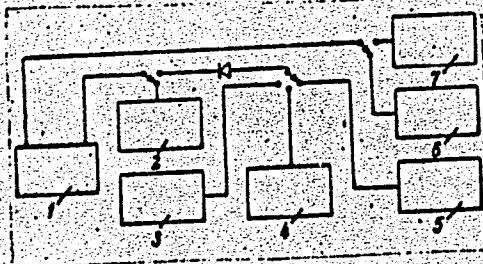


Fig. 2. Cooling equipment

- 1 - Test resonator; 2 - frequency meter;  
3 - Q meter; 4 - indicator; 5 - oscillograph;  
6 - pulse generator; 7 - signal generator.

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S/0238/64/010/005/0636/0640

ACCESSION NR: AP4045933

AUTHOR: Revuts'ky'y, Ye. L. (Revutskiy, Ye. L.)

TITLE: Effect of high-frequency electromagnetic vibrations on the motor function of the human stomach

SOURCE: Fiziologichny'y zhurnal, v, 10, no. 5, 1964, 636-640

TOPIC TAGS: high frequency electromagnetic vibration, motor function, human stomach, epigastric region, microwave, biological microwave effect, UHF, SHF, ultrahigh frequency wave, superhigh frequency wave

ABSTRACT: The action of a high-frequency electromagnetic field on the epigastric region was studied. It was determined that such action does not disturb the periodic motor activity of the stomach, other than that of digestion with an empty stomach. Application of short and ultrashort waves together with weakly thermal or thermal high-frequency dosages was, in a number of cases, attended by a shortening of the periods of relative dormancy and a lengthening of the periods of energetic motor activity of the stomach. In this case, the changes observed in the motor activity of the pyloric part of the stomach may result from an

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ACCESSION NR: AP4045933

increase in sensitivity to mechanical irritation with a bulb. The electrogastrographic investigations indicated that under the influence of an electromagnetic shortwave field acting on the epigastric region, the motor activity of the stomach during digestion was intensified. Exposure to a superhigh-frequency field had a similar but less pronounced effect. The data obtained are considered to be of importance in defining the principles of applying high-frequency electrotherapy in the treatment of diseases of the stomach. Orig. art. has 4 figures.

ASSOCIATION: Viddil klinichnoyi fiziologiyi Inst'y\*tutu fiziologiyi im. O. O. Bogomol'tsya Akademiyi nauk URSR, Kiev (Department of Clinical Physiology, Institute of Physiology, Academy of Sciences URSR)

SUBMITTED: 01Jun64

ENCL: 00

SUB CODE: LS

NO REF SOV: 007

OTHER: 005

Card 2/2

S/0057/64/034/007/1266/1271

ACCESSION NR: AP4042003

AUTHOR: Bomko, V. A.; Revutskiy, Ye. I.; Bolotin, L. I.

TITLE: The high-frequency characteristics of a linear accelerator for multicharged ions of energy up to 1 Mev per nucleon operating on an Hill-wave

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 7, 1964, 1266-1271

TOPIC TAGS: multicharged ion linear accelerator, linear accelerator

ABSTRACT: A linear accelerator has been designed for multicharged ions accelerating up to 1 Mev per nucleon operating on an Hill-wave. The 6-m wavelength was selected. The diameter of the drift tubes was 8 m, which was constant along the whole accelerating system. The maximum voltage in the gap was 72 kv/cm. Experimental investigation of the high-frequency characteristics of the resonator, corresponding to the excitation of Hill-oscillations in it, is 50.1 Mcps, almost the same as the calculated value. The Q-factor is 7363, and the shunt resistance is 228.2 Mohm. It is seen that this system, designed for a 6-m wavelength, has a rather high shunt resistance, approximately four times

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ACCESSION NR: AP4042003

higher than that of the  $E_{010}$  system on the same wavelength. Thus, the accelerating system on  $H_{111}$ -wave appears to be much more effective than the  $E_{010}$  for the investigated energy range. The value of high-frequency power needed to establish the calculated value of the accelerating field at the shunt resistance value shown is 80 kw per pulse, in contrast to 400 kw needed in Berkeley, Yale, and England for the same energy at the output. Orig. art. has: 5 figures, 1 table, and 3 formulas.

ASSOCIATION: none

SUBMITTED: 23Aug63

ATT PRESS: 3063

ENCL: 00

SUB CODE: NP

NO REF SOV: 002

OTHER: 005

Card 2 / 2

ACCESSION NR: AP4042002

S/0057/64/034/007/1259/1265

AUTHOR: Bomko, V. A.; Revutskiy, Ye. I.

TITLE: Investigation of accelerating system based on the  $H_{111}$  mode

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 7, 1964, 1259-1265

TOPIC TAGS: heavy particle accelerator, particle accelerator, linear accelerator

ABSTRACT: An accelerating system is described in which the  $H_{111}$  mode is used for excitation and the drift tubes are attached separately and alternately to the opposite side of the lateral wall of the resonator cylinder, thus maintaining independent compartments. In the course of investigation the following high-frequency characteristics were determined: the absolute value of the proper resonator frequency which can be obtained with this system, the dependence of proper resonator frequencies on the length of acceleration periods and diameter of drift tubes, the dependence of proper frequencies of the resonator on its length and diameter at different acceleration periods, the character of field distribution in the resonator loaded by the accelerating system, the methods of adjustment of the resonator

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ACCESSION NR: AP4042002

sections and of obtaining the assigned distribution of fields along the accelerating system, the Q-factor and shunt resistance for different parameters of the accelerating system, and the simulation coefficient and the change in magnitude of parameters (investigated on models) when passing to operating systems. The experimental investigation shows that it is possible to reduce considerably the bulk of a heavy-particle linear accelerator in comparison to the  $E_{010}$ -type system at the same wavelength. The transition to long waves, without which the acceleration of very heavy ions is impossible, can be accomplished with the aid of this accelerating system at small cross dimensions of the resonator (a wavelength more than 10 m can be obtained at resonator diameter of 3 m, while on an  $E_{010}$  system the diameter must be more than 7 m). When the acceleration is 10 to 20 Mev per nucleon, the shunt resistance is higher than that for an  $E_{010}$  system. The investigations showed that a gradual alteration of the resonator diameter is the most convenient means for adjustment. Orig. art. has: 8 figures, 1 table, and 3 formulas.

ASSOCIATION: none

Card 2/3

REVUTSKIY, Ye. L.

"The Temperature of the Human Esophagus, Stomach, Duodenum, and Initial Portions of the Large Intestine in the Absence of Digestion." Cand Med Sci, Kiev Medical Inst, Kiev, 1953. (RZhBiol, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55

REVUTSKIY, Ye. L.; ZHIRNOVA, P.D.

Modifications of gastric temperature and its relation to periodic motor activity. Vop. fiziol. no. 5:88-94 '53. (MLRA 8:1)

1. Kiyevskiy meditsinskiy institut, kafedra gospital'noy terapevticheskoy kliniki.

(STOMACH, physiology,

temperature, relation to periodic motor changes)

(BODY TEMPERATURE,

stomach, relation to periodic motor changes)

REVUTS'KIY

REVUTS'KIY

E. L.

Temperature of the human esophagus. Medich. zhur. 23 no.3:28-34  
'53. (MIRA 8:2)

1. Kiiv's'kiy medichniy institut, gospital'na terapeutichna klinika.  
(BODY TEMPERATURE) (ESOPHAGUS--EXPLORATION)

REVUTS'KIY, E.L.

REVUTS'KIY, E.L.

Methodology for studying the temperature of the human digestive tract.  
Medich. zhur. 23 no.5:78-83 '53. (MLRA 8:2)

1. Kiivs'kiy medichniy institut, gospital'na terapevtichna klinika,  
(ALIMENTARY CANAL) (BODY TEMPERATURE)  
(PHYSIOLOGICAL APPARATUS)

RIVUTSKIY, Ye.L.

Effect of irradiation with a "solur" lamp and an infrared lamp  
on the temperature in the human digestive tract. Vop. fiziol.  
no.10:118-124 '54. (MLRA 10:5)

1. Kiyevskiy meditsinskiy institut, Gospital'naya terapeuticheskaya  
klinika.  
(RADIATION--PHYSIOLOGICAL EFFECT) (BODY TEMPERATURE)  
(DIGESTIVE ORGANS)

Revutskiy, Ye. L.  
USSR/Medicine - Physiology

FD-2555

Card 1/1      Pub. 17-8/23

Author : Revutskiy, Ye. L.

Title : On the temperature in the digestive tract of man and the effect of physiotherapeutic measures on it

Periodical : Byul. eksp. biol. i med. 5, 29-32, May 1955

Abstract : Investigated the temperature in the digestive tract of man (both healthy and ill) and the effect on this temperature of various physiotherapeutic measures, as the application of heat pads to the anterior abdominal wall, application of paraffin, infrared radiation, and diathermy. Graphs. Four references, all USSR (3 since 1940).

Institution : Hospital Therapeutic Clinic (Head - Prof. V. N. Ivanov. Member of the Academy of Medical Sciences USSR) of the Kiev Medical Institute

Submitted : June 6, 1954 by V. N. Ivanov, Member of the Academy of Medical Sciences USSR

REVUTSKIY, Ye.L. [Revuts'kyi, I.E.L.]

Some debatable points in appraising the clinical importance of changes in gastric temperature [with summary in English]. *Fiziol. zhur.* [Ukr.] 3 no.6:102-106 D '57. (MIRA 11:2)

1. Institut fiziologii im. O.O.Bogomol'tsya Akademii nauk URSR,  
viddil klinichnoi fiziologii  
(STOMACH) (BODY TEMPERATURE)

REVUTSKIY, Ye. L.

Ante cibum changes in the gastrointestinal temperature and their relation to periodic activities of the digestive organs in man. Biul. eksp. biol. med. 47 no.5:29-32 My '59. (MIRA 12:7)

1. otdela klinicheskoy fiziologii (zav. otdelom - deystv.chlen. prof. V. N. Ivenov) Instituta fiziologii i. m. I. M. ad. A.A. Bogomol'tsa (dir. - chlen-korrespondent AN USSR A.P. Makarchenko) AN USSR, Kiyev. Predstavlena deystvitel'nym chlenom AMN SSSR V. N. Ivanovym.

(PERIODICITY,

gastrointestinal periodic activities, relation to digestive temperature anti cibum(Rus))

(GASTROINTESTINAL SYSTEM, physiol. temperature, relation to digestive periodicity ante cibum (Rus))

REVUTSKIY, Ye.L. [Revuts'kiy, E.L.]; EYDEL'MAN, F.M.

Effect of 1 centimeter and 1 meter electromagnetic waves on the content of biologically active substances in human blood. Fiziol. zhur. [Ukr.] 10 no.3:379-383 My-Je '64. (MIRA 18:9)

1. Otdel klinicheskoy fiziologii Instituta fiziologii im. A.A.Bogomol'tsa AN UkrSSR, Kiyev.

GUBERGITS, Aleksandr Yakovlevich, zasl. deyatel' nauki prof.;  
TSIMMERMAN, Yakov Saulovich, dots.; REVUTSKIY, Ye. L.,  
red.

[Therapeutic nutrition in internal diseases; a brief manual  
for doctors and students] Lechebnoe pitanie pri vnutrennikh  
bolezniakh; kratkoe posobie dlia vrachei i studentov. Kiev,  
Zdorov'ia, 1965. 69 p. (MIRA 18:10)

REVUTSKIY, Ye.L. [Revuts'kyi, IE.L.]

Changes in the temperature of the contents of the alimentary tract  
in man. Fiziol. zhur [Ukr]8 no.4:497-500 Jl-Ag '62. (MIRA 18e4)

1. Otdel klinicheskoy fiziologii Instituta fiziologii im A.A.  
Bogomol'tsa AN UkrSSR, Kiyev.

REVUTSKIY, Ye.L. [Revuts'kyi, I.E.L.]; EYDEL'MAN, F.M. [Eidel'man, F.M.];  
SEMENCHUK, D.D.

Proteins and mucoproteins of the gastric juice in various forms  
of chronic gastritis. Fiziol. zhur. [Ukr.] 9 no.6:775-780 N-D '63.  
(MIRA 17:8)

1. Otdel klinicheskoy fiziologii Instituta fiziologii im.  
Bogomol'tsa AN UkrSSR, Kiyev.

BOMKO, V.A.; REVUTSKIY, Ye.I.

Study of an accelerating system operating on an  $H_{111}$  wave.  
Zhur. tekh. fiz. 34 no.7:1259-1265 Jl '64 (MIRA 17:8)

BOKO, V.A.; REVUTSKIY, Ye.I.; BOLATIN, L.I.

High-frequency characteristics of a linear accelerator of  
multiply charged ions of an energy up to 1 Mev. per nucleon  
operating on an H<sub>111</sub> wave. Zhur. tekh. fiz. 34 no. 7:1266-1271  
J1 '64 (MIRA 17:8)

REVUTSKIY, Ye.L., kand.med.nauk (Kiyev)

Use of microwave therapy in gastric disease. Vrach. delo no.11:  
59-62 N'63 (MIRA 16:12)

1. Otdel klinicheskoy fiziologii Instituta fiziologii imeni  
A.A.Bogomol'tsa AN UkrSSR.

REVUTSKIY, Ye.L. (Kiev)

Plenum of the Board of the State Scientific Society of Therapeutists of the Ukrainian S.S.R. Vrach.delo no.28154-155 P  
'63. (MIRA 16:5)  
(HEMATOLOGY--CONGRESSES)

REVUTSKIY, Ye.L.; EYDEL'MAN, F.M.; SEMENCHUK, D.D. (Kiyev)

Study of proteins and mucoproteins of the gastric juice by paper electrophoresis. Vrach.delo no.2842-44 P '63. (MIRA 16:5)

1. Otdel klinicheskoy fiziologii Instituta fiziologii imeni A.A. Bogomol'tsa AN UkrSSR.  
(PAPER ELECTROPHORESIS) (PROTEINS) (GASTRIC JUICE)

PELESHCHUK, A.P.; REVUTSKIY, Ye.L.; SKOPICHENKO, N.F. (Kiyev)

Fifteenth All-Union Congress of Therapeutists. Vrach.delo  
no.11:152-155 N '62. (MIRA 16:2)  
(THERAPEUTICS--CONGRESSES)

S/903/62/000/000/015/044  
B102/B234

AUTHORS: Bolotin, L. I., Klyucharev, A. P., Rutkevich, N. Ya.,  
Revutskiy, Ye. I., Rudyak, B. I.

TITLE: Angular distributions of 5.4-Mev protons elastically scattered  
from Ca, Ni and Zn isotopes

SOURCE: Yadernyye reaktsii pri malykh i srednikh energiyakh; trudy  
Vtoroy Vsesoyuznoy konferentsii, iyul' 1960 g. Ed. by  
A. S. Davydov and others. Moscow, Izd-vo AN SSSR, 1962, 180-184

TEXT: Elastic proton scattering was investigated with even-even isotopes  
exhibiting great differences in their neutron numbers: Ca<sup>40</sup> and Ca<sup>48</sup>, Ni<sup>58</sup>  
and Ni<sup>64</sup> and Zn<sup>64</sup> and Zn<sup>68</sup>. The protons were accelerated with a linear ac-  
celerator to 5.40 Mev and were, after scattering, recorded by photographic  
plates arranged about the incident beam in the interval 20-160°C. The  
targets were thin foils (1.12 - 3.0  $\mu$ ) enriched in the isotope to be in-  
vestigated. The angular distributions of the protons were measured and are  
represented in a plot with  $\theta_{c.m.s.}$  as abscissa and

Card 1/2 .

Angular distributions of...

S/903/62/000/000/015/044  
B102/B234

$[N(\theta)/N(120^\circ)]/[(\sin \theta/2)^4/(\sin 60^\circ)^4]$  as ordinate. The ratio at  $160^\circ$  between the measured cross section and the Coulomb cross section is, for Ca<sup>48</sup>, smaller by a factor of 2.5 than for Ca<sup>40</sup>; for Ni<sup>64</sup> smaller by a factor of 1.9 than for Ni<sup>58</sup>; and for Zn<sup>68</sup> smaller by a factor of 1.3 than for Zn<sup>64</sup>. The large-angle maxima may be explained by a considerable contribution of scattering with compound-nucleus formation. The possible decay channels are (p,n), (pp), (p,p);(p, $\alpha$ ) and (p, $\gamma$ ), the two latter are of little probability. The (p,n) reaction thresholds were also determined. They were 15.0 and 0.52 for Ca<sup>40,48</sup>, 10.48 and 2.45 for Ni<sup>58,64</sup> and 8.0 and 3.81 for Zn<sup>64,68</sup>, i.e. for even isotopes they decrease with increasing neutron number. There are 5 figures.

ASSOCIATION: Fiziko-tehnicheskiy institut AN USSR (Physicotechnical Institute AS UkrSSR)

Card 2/2

S/903/62/000/000/025/044  
B102/B234

AUTHORS: Klyucharev, A. P., Rutkevich, N. Ya., Ranyuk, Yu. N.,  
Bolotin, L. I., Kulygin, Yu. F., Revutskiy, Ye. I.

TITLE: Nuclear reactions induced by heavy ions

SOURCE: Yadernyye reaktsii pri malykh i srednikh energiyakh; trudy  
Vtoroy Vsesoyuznoy konferentsii, iyul' 1960 g. Ed. by  
A. S. Davydov and others. Moscow, Izd-vo AN SSR, 1962, 329-333

TEXT: Nuclear photoemulsions НИКФИ (NIKFI) (type D) were irradiated by carbon (112 Mev) and beryllium ions (84 Mev) and then subjected to microscopic scanning. On the average 2200 Be ions (or 4400 C ions) were necessary for producing one star. A total of 130 stars due to Be and of 140 due to C ion-bombardment were analyzed. The events may be attributed to two groups: collisions with light (C, N, O, H) and heavy (Br, Ag) nuclei, and among them to three groups: production of singly-, doubly, or multiply charged particles. Since it was not possible to identify the prongs the stars were analyzed on the basis of the particle evaporation from compound nuclei. The reaction products were alphas and protons with  $\alpha/p = 10$  for light and  $\alpha/p \approx 20$  for heavy nuclei. For C, N, O + C the main reactions were

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Nuclear reactions induced by heavy ions

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B102/B234

$2\alpha$ ,  $3\alpha$ ,  $p2\alpha$ ,  $\alpha p$ , and  $\alpha$  (enumerated according to decreasing probability) and for Br, Ag + C they were  $2\alpha$ ,  $\alpha$ ,  $\alpha p$ ,  $3\alpha$ ,  $p$ ,  $p2\alpha$ ; for C, N, O + Be they were  $2\alpha$ ,  $\alpha$ ,  $3\alpha$ ,  $p\alpha$  and  $5\alpha$  (the latter two with equal probability) and for Br, Ag + Be  $2\alpha$ ,  $\alpha$ ,  $2p\alpha$ ,  $p$ . Also energy spectra and angular distributions were measured. The course of the latter indicates the considerable contribution made by direct processes. It could be shown that the six-pronged stars observed were formed by  $\alpha$ -particles, the disintegration products of the carbon projectile. There are 7 figures.

ASSOCIATION: Fiziko-tehnicheskiy institut AN USSR (Physicotechnical Institute AS UkrSSR)

Card 2/2

BURCHINSKIY, Georgiy Iosifovich, doktor med. nauk, prof.; REVUTSKIY,  
Ye.L., red.; CHUCHUPAK, V.D., tekhn. red.

[Erythrocyte sedimentation reaction] Reaktsiya osedaniia erit-  
rotsitov. Izd.3., perer., ispr. i dop. Kiev, Gosmedizdat,  
USSR, 1962. 204 p. (MIRA 16:3)

(BLOOD—SEDIMENTATION

IVANOV, V.N., akademik, prof., otv. red.; BURCHINSKIY, G.I., prof., zam. red.; LIKHTENSHTEIN, Ye.I., doktor med. nauk, red.; MIKHNEV, A.L., zasl. deyatel' nauki, prof., red.; PELESHCHUK, A.P., dots., red.; REVUTSKIY, Ye.L., starshiy nauchnyy sotr., red.; SKOPICHENKO, N.F., dots., red.; CHEBOTAREV, D.F., prof., red.; YANOVSKIY, D.N., prof., red.; GITSHTEYN, A.D., tekhn. red.

[Transactions of the 7th Congress of Therapeutists of the Ukrainian S.S.R.] Trudy VII s"ezda terapevtov Ukrainskoi SSR. Kiev, Gosmedizdat USSR, 1962. 610 p. (MIRA 15:10)

1. S"ezd terapevtov Ukrainskoy SSR. 7th, 1957.
2. Akademiya nauk Ukrainskoy SSR 1 deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR, predsedatel' Pravleniya Respublikanskogo nauchnogo obshchestva terapevtov Ukrainskoy SSR (for Ivanov).
3. Glavnyy terapeut Ministerstva zdravookhraneniya Ukrainskoy SSR (for Chebotarev).
4. *Otvetstvennyy sekretar' Pravleniya Respublikanskogo nauchnogo obshchestva terapevtov Ukrainskoy SSR* (for Revutskiy).
5. Zamestiteli predsedatelya Pravleniya Respublikanskogo nauchnogo obshchestva terapevtov Ukrainskoy SSR (for Mikhnev, Chebotarev).

(THERAPEUTICS--CONGRESSES)

5196  
S/185/62/007/002/002/01  
D299/D302

46731  
AUTHORS: Bolotin, L.V., Suprunenko, V.O., Bennits'kyy, Ye.I.,  
and Bomko, V.O.

TITLE: Design and construction of an accelerating system for  
linear strong-focusing accelerator

PERIODICAL: Ukrayins'kyy fizichnyy zhurnal, v. 7, no. 2, 1962,  
132 - 136

TEXT: A semi-empirical method is proposed for designing the accelerating system of a linear accelerator. This problem amounts to studying the distribution of the longitudinal electric field in the gap along the resonator axis and to determining the efficiency factors of the accelerating gaps. These factors are empirically found; they depend on the distribution of the field along the axis. It is assumed that the drift tubes are symmetrical. A comparison of the values of the period  $l_m$ , calculated by the approximate and the accurate method, showed that the approximate method is satisfactory. It is assumed that the length of the drift tubes is considerably

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D299/D302

Design and construction of an ...

smaller than the wavelength; hence the field can be considered as electrostatic. The problem reduces to the solution of Laplace's equation with given boundary conditions. Thereby one obtains a formula for the efficiency factor:

$$G_n(r) = \frac{I_0\left(\frac{2\pi r}{L_n}\right)}{I_0\left(\frac{2\pi a}{L_n}\right)} \Psi_1(\pi\alpha). \quad (8)$$

The quantity  $\Psi_1$  depends only on the ratio  $\alpha = \delta_n/L_n$ , ( $\delta$  denoting the gap between the drift tubes); it is constant for a given accelerating system;  $I_0$  denotes a modified Bessel function. The quantity  $\Psi$  is estimated for 2 types of actual boundary conditions: 1) The field at the periphery of the drift tubes is constant, and 2) the field is infinite. It was found that the values of  $G_n$ , corresponding to these 2 cases, differed by 6 % only, which is entirely satisfactory for practical purposes. It is noted that the weak dependence of  $G_n$  on the boundary conditions, applies only in the case of  $\alpha < 1$ .

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Design and construction of an ...

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D299/D302

moderate values of  $\alpha$ . Formula (3) was experimentally verified by the electrolytic-bath method. In conclusion, the obtained formulas can be used in practice. There are 2 figures, 1 table and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: L. Smit and R.L. Glus-  
tern, Rev. of Sc. Instr., 26, 2, 220, 1955.

ASSOCIATION: Fizyko-tehnichnyy instytut AN UkrSSR (Physicotechnical Institute of the AS UkrSSR), Kharkiv

SUBMITTED: March 21, 1961

Card 3/3

REVUTSKIY, Ye.L., kand.med.nauk

Influence of inductothermy on intragastric temperature, secretory function, and motor activity of the stomach in the absence of digestion.  
Vrach. dele no.12:62-68 D '60. (MIRA 14:1)

1. Otdel klinicheskoy fiziologii (zav. - akademik AN USSR, deystvitel'nyy chlen AMN SSSR prof. V.N. Ivanov) instituta fiziologii imeni A.A. Bogomol'tsa AN USSR.  
(ELECTROPHYSIOLOGY) (STOMACH--SECRETIONS)

REVUTSKYI, Ye. I., kand. med. nauk (Kiyev).

Activity of the Society of Therapists of the Ukrainian S.S.R. in  
1957. Terap. arkh. 30 no.12:87-88 D '58. (MIRA 12:1)  
(UKRAINE--THERAPEUTICAL SOCIETIES)

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001444720012-6

REF ID: A

KHARKHURIN, Ye., inzh.-podpolkovnik; SHVEBIG, A., inzh.-polkovnik; REVVA, F.,  
inzh.-kapitan; VIREVKIN, I., kapitan; AFONIN, B., inzh.-kapitan.

Training of repairmen. Tankist no.1:22-25 Ja '58. (MIRA 11:3)  
(Tanks (Military science)--Maintenance and repair)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001444720012-6"

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001444720012-6

CHEBOTKEVICH, G.V., inzb.; RENVA, G.M., inzh.

Testing of the newly designed safety valve of an impulse-type  
safety device. Elek. sta. 31 no.8:12-14 Ag '60. (MIRA 1419)  
(Boilers—Safety appliances)

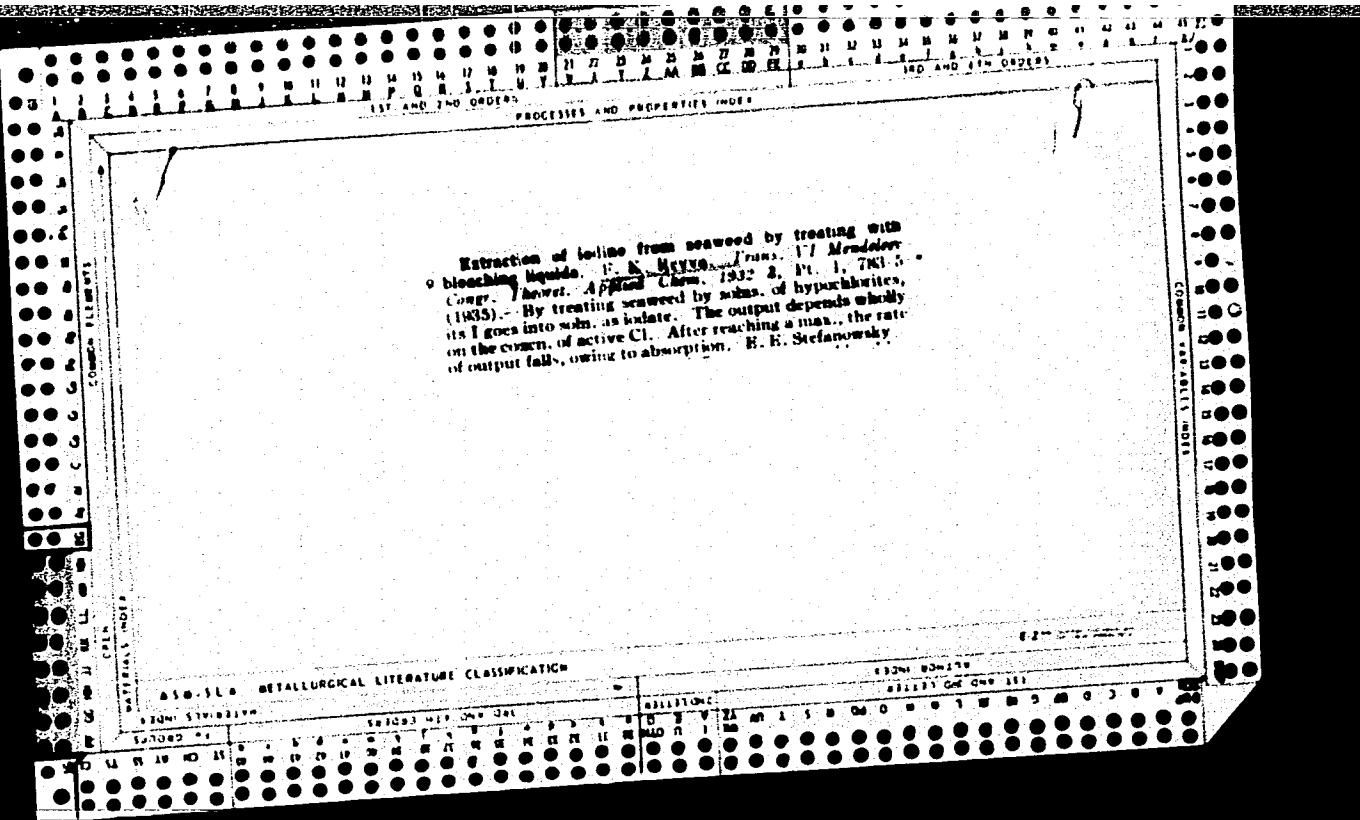
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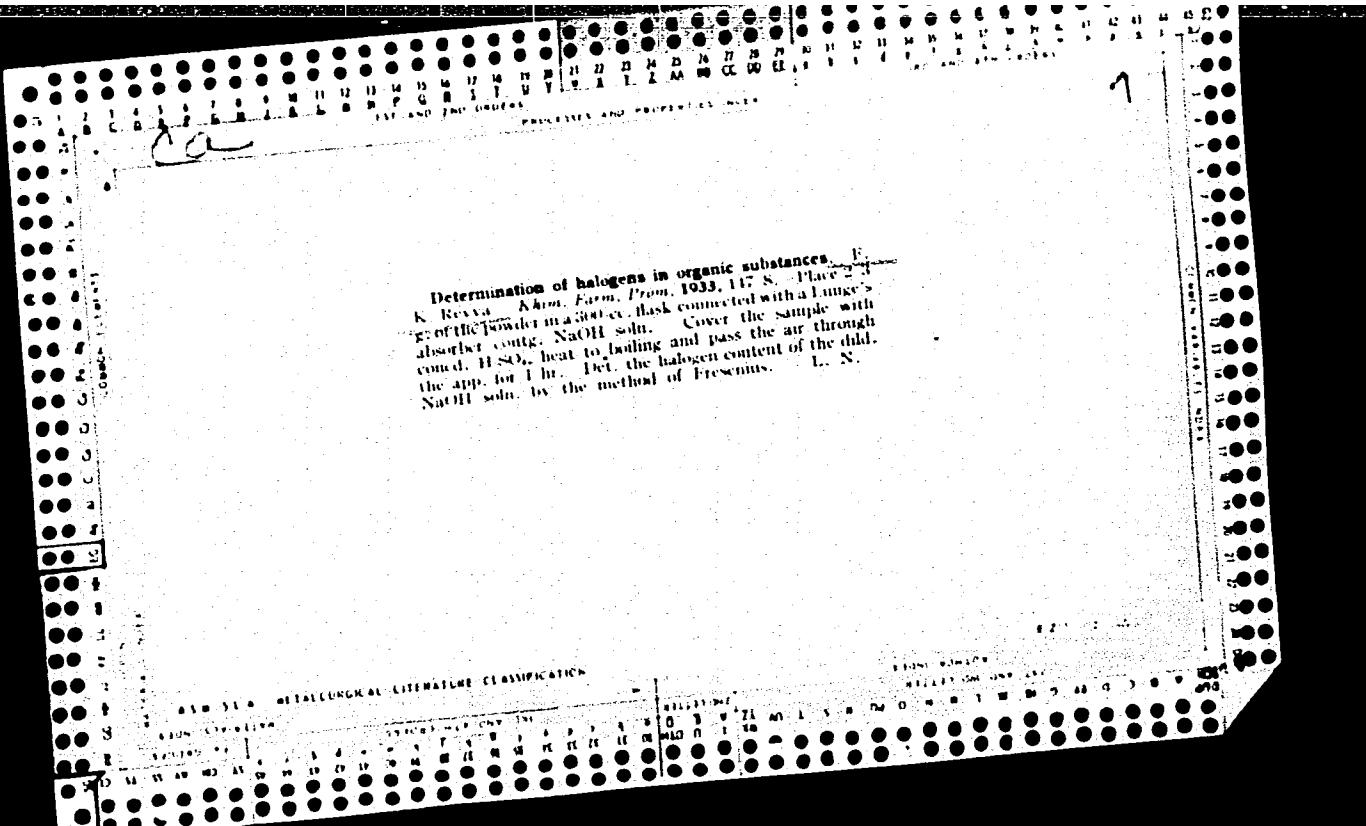
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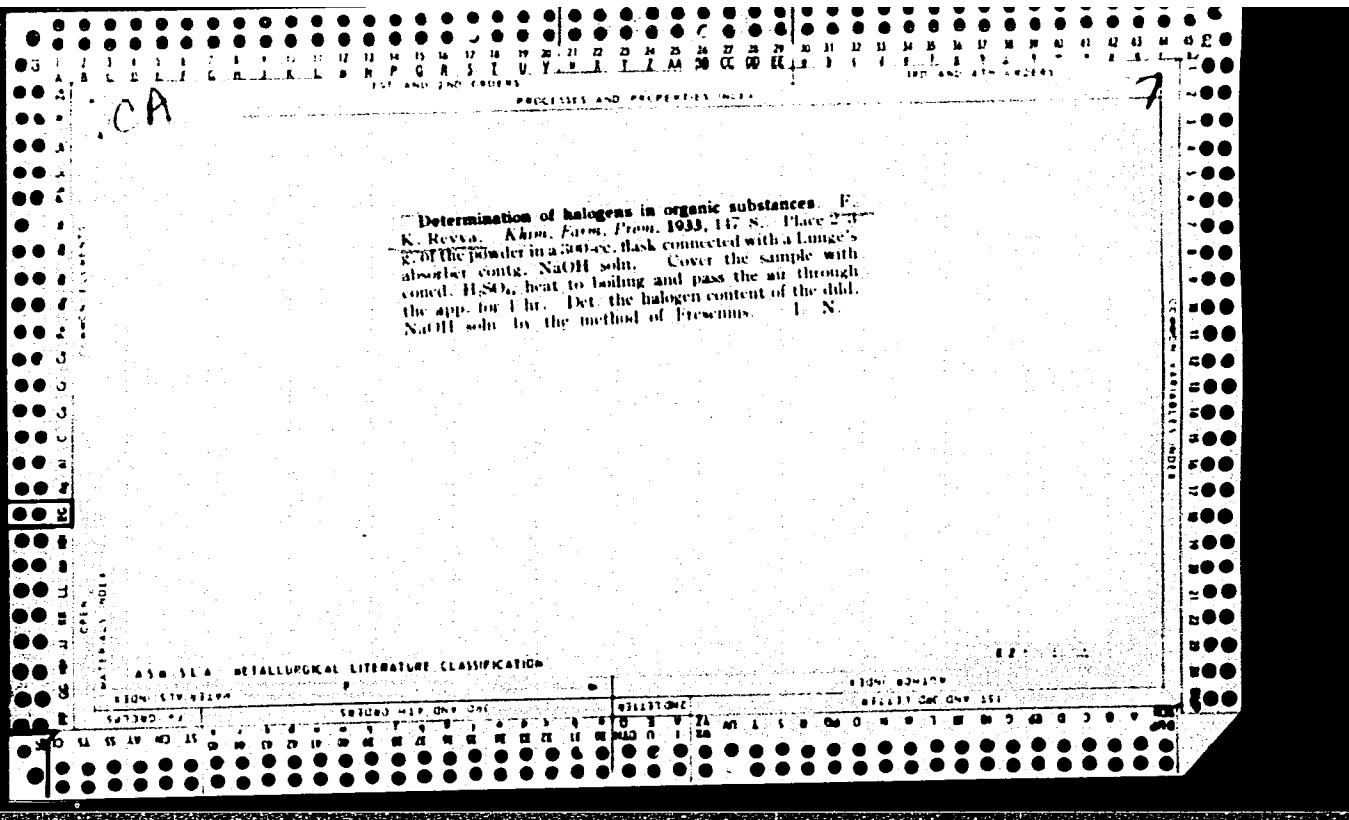
REVVA, F.K., absent

Preparation of high polymer materials as mastics for the filling  
of gaps and joints in wooden deck coverings. Sudorem. i sudastr.  
no.2;187-200 '63. (MIRA 17:4)

I. Odesskiy institut inzhenerov morskogo flota.







*c A*

7

Hypochlorite determinations. E. K. Rukha and V. V. Illarionov. *J. Applied Chem. U.S.S.R.* 6, 588-70 (1953).—A comparative study was made of the bromate and permanganate methods. Both are capable of giving good results, but HCl is better than H<sub>2</sub>SO<sub>4</sub> for making the soln. acid.

A. A. Bochtler

**Hypochlorite determinations.** E. K. Revva and V. V. Il'iarionov. *J. Applied Chem. (USSR)* 6, 56-70 (1953).—A comparative study was made of the bromate and permanganate methods. Both are capable of giving good results, but HCl is better than  $H_2SO_4$  for making the soln. acid. A. A. Bochtingk

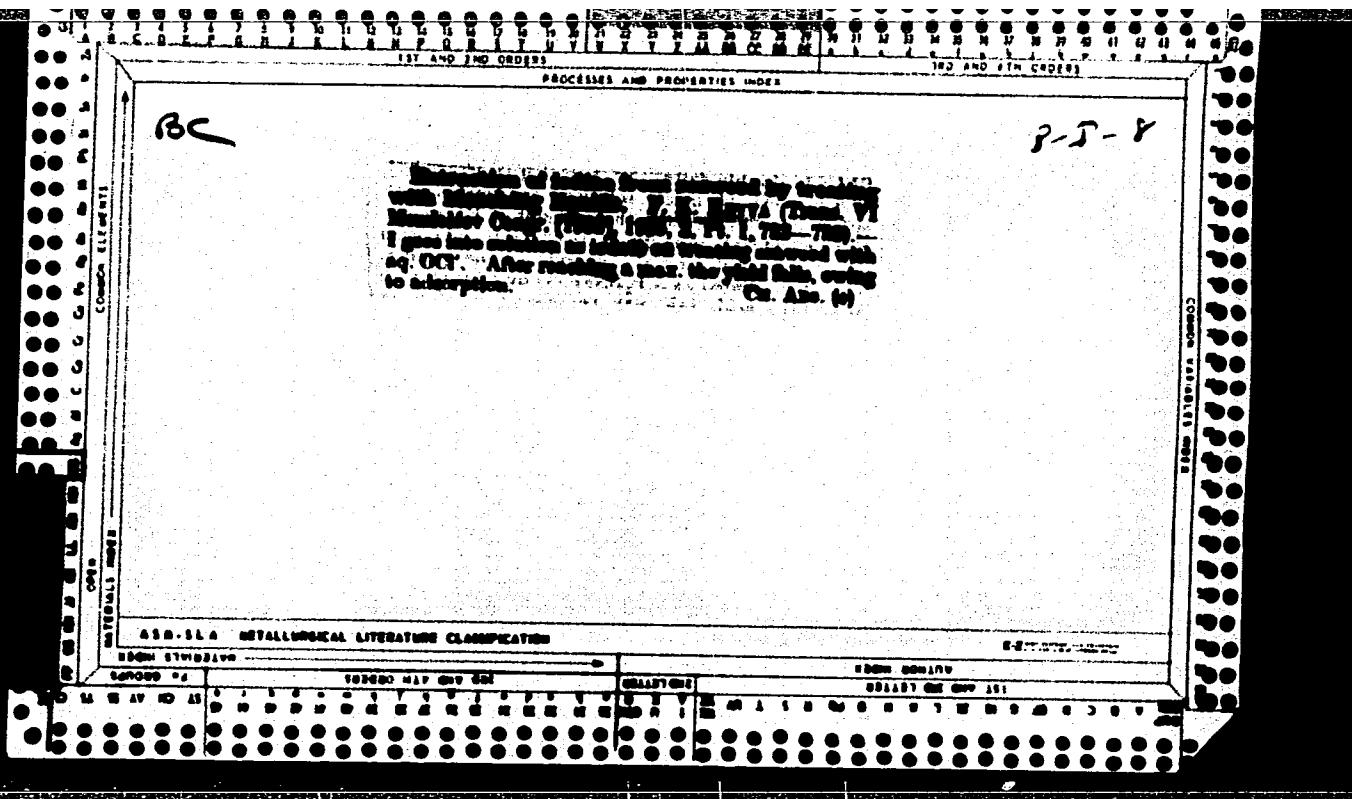
A. A. Borchling

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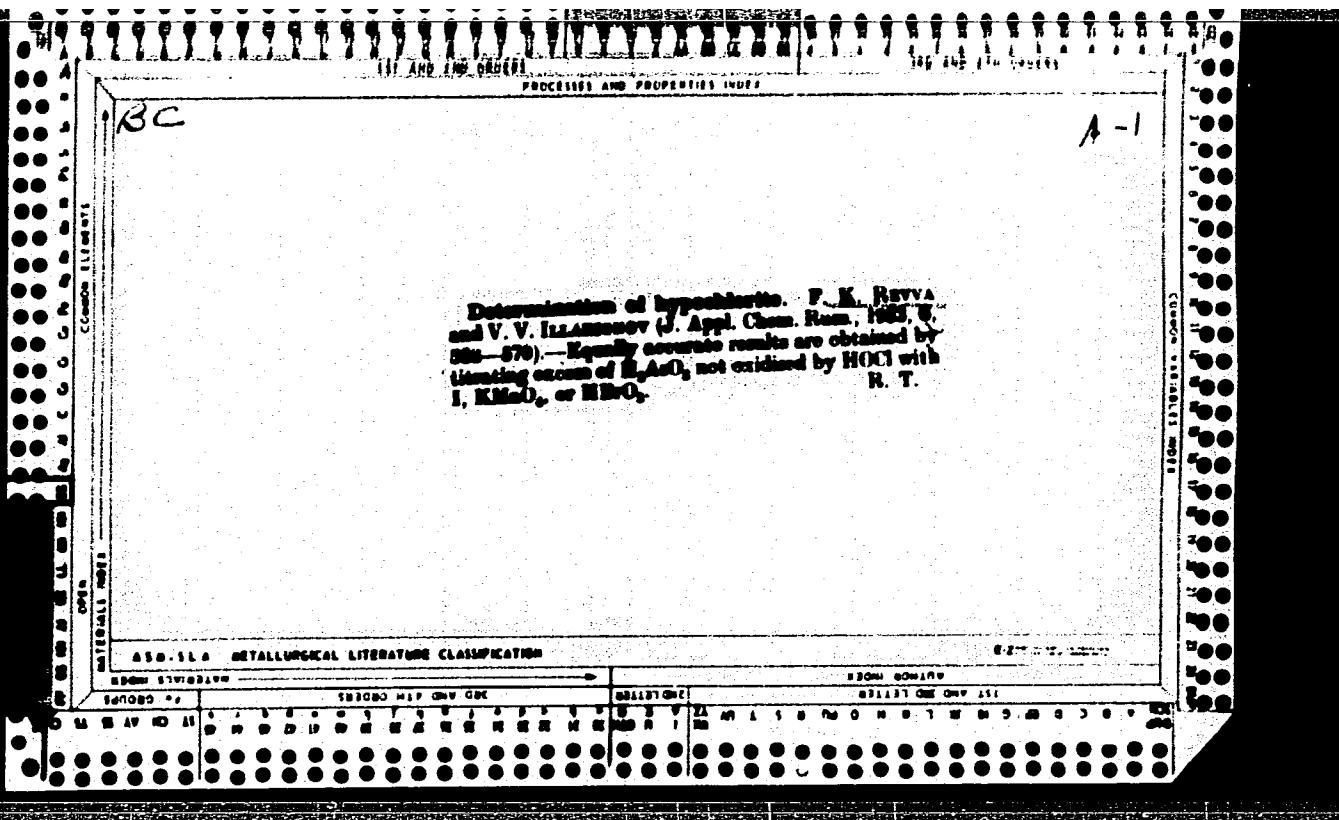
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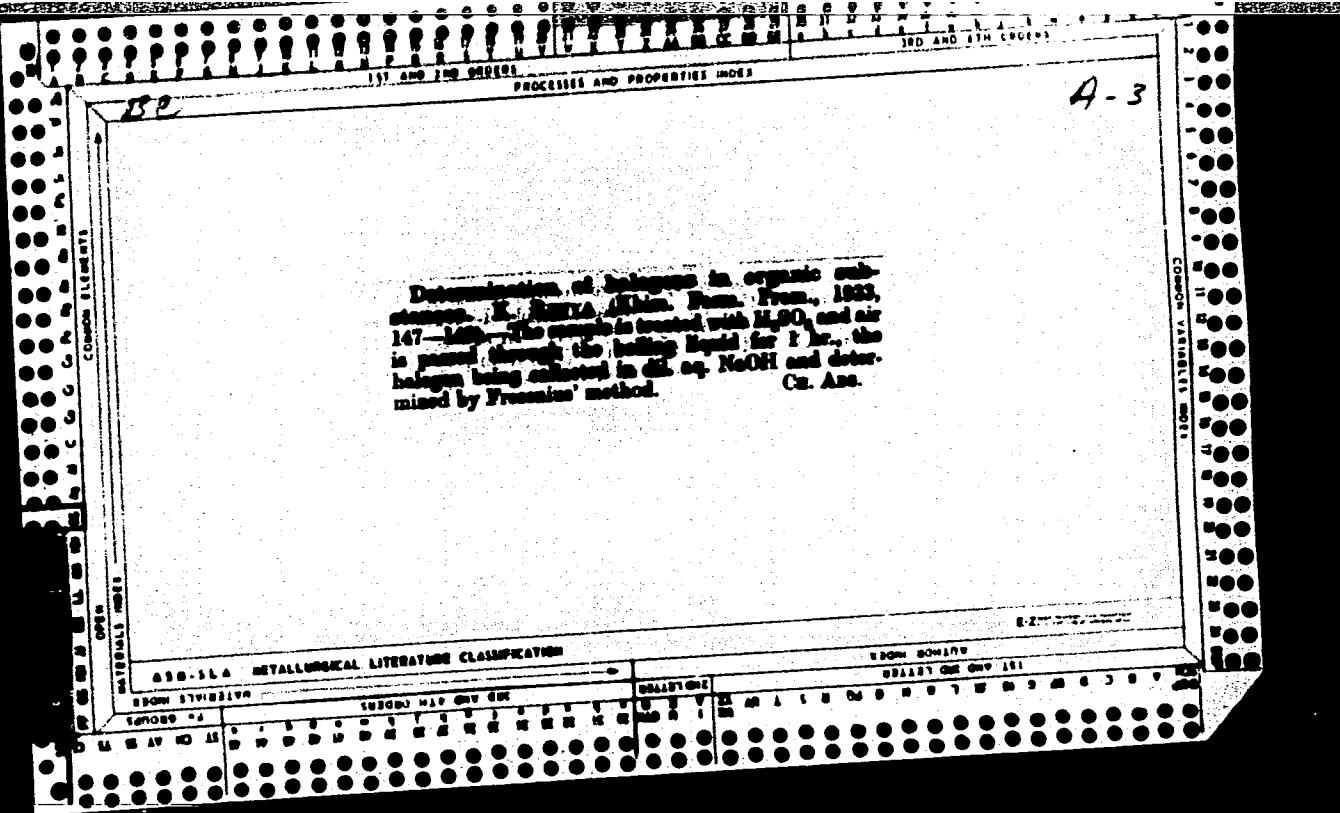
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**Investigations on the seed-preserving influence of copper sulfate-mercuric chloride mixtures.** D. RAYY AND I. FINDBALL. *Kisilev. Naukovednykh* 32, 200-204 (1920). The addition of  $HgCl_2$  (equiv. to 0.3-2.8% Hg) increased the influence of  $CuSO_4$  in lengthening the period during which germination is possible. The insecticidal and germicidal action will be investigated later. S. S. FINDBALL

#### S S IN FINALS

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CIA-RDP86-00513R001444720012-6

TERESHCHENKO, D.; REVVA, K.

Results of changing the No.2 Mining Administration to operation  
without subsidies. Ugol' 39 no.10:43-44 O '64.

1. Trest Krasnokarmeyskugol'.

(MIRA 17:12)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001444720012-6"

ACC NR: AM6032613

(A,N)

Monograph

UR/

Strunge, Boris Nikolayevich; Revva, Leonid Dorofeyevich; Raskin, Veniamin  
Geselevich; Epshteyn, Abram SemenovichD100 automated high-power diesel generators (Avtomatizirovannye dizel'-generatory  
bol'shoy moshchnosti tipa D100) Moscow. Izd-vo "Mashinostroyeniye", 1966.  
259 p. illus., biblio. 1800 copies printed.TOPIC TAGS: diesel engine, marine engineering, generator, electric generator,  
electric generator unit, automation, automation equipment/D100 diesel generatorPURPOSE AND COVERAGE: This book is intended for technical and engineering workers  
engaged in the planning and operation of stationary and shipboard automated  
diesel generators. The book discusses the principles and methods of automating  
the control, servicing, emergency-warning signalling, and the protection of high  
powered, type D100 stationary and shipboard diesel generators. Technical charac-  
teristics are presented, and domestic systems of automation, remote control,  
emergency-warning signalling, and the protection of diesel generators are de-  
scribed. The peculiarities of automation systems, their electrical diagrams,  
and the design of separate elements of the devices for monitoring these systems  
are examined. Recommendations are given for the installation, check-out, and  
operation of automated diesel generators. There are 14 references, all Soviet.

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UDC 621.372.52

000. 021.212.222-043-52

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Ch. II. Development of automated diesel generators  
Ch. III. Automatic devices  
Ch. IV. Proprietary

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Ch. IV. Automatic devices, monitoring devices, and their arrangement in units -- 9  
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SUM DATE: 31 Mar 66/

ORIGIN REP: 014/

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001444720012-6"

REVVA, M.K.; SEMERENKO, D.K., kand. tekhn. nauk; SMIRNOV, V.G.

Investigating the process of underground gasification of coal  
in Poland. Trudy VNITPodzemgaza no.12:161-163 '64.

(MIRA 18:9)

GERSHEVICH, E.G.; KASHKIN, A.A.; KREYNIN, Ye.V.; REVVA M.K.

Basic results of the work of the south Abinskiy underground  
gasification station in 1961. Nauch. trudy VNII Podzemgaza  
no.8:87-91 '62. (MIRA 16:6)

1. Laboratoriya gazifikatsii kamennyykh ugley Vsesoyuznogo  
nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii  
ugley i Yuzhno-Abinskaya stantsiya "Podzemgaz".

(Abinskiy region--Coal gasification, Underground--  
Accounting)

YUDIN, I.D., kand.khim.nauk; TURCHANINOV, I.A., kand.tekhn.nauk; REVVA, M.K.

Erroneous analysis of the performance of gas producer no.1 at the  
Yuzhno-Abinskaya "Podzemgaz" Station. Podzem. gaz. ugl. no.3:  
68-69 '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz i  
Yuzhno-Abinskaya stantsiya "Podzemgaz."  
(Kuznetsk Basin--Coal gasification, Underground)

YUDIN, I.D., kand. khim. nauk; REVVA, M.V.

Some of the techniques used at the Yuzhno-Abinsk "Podzemgaz" plant.  
Podzem. gaz. ugl. no.1:13-15 '59. (MIRA 12:6)

1. VNII Podzemgaz, Yuzhno-Abinskaya stantsiya.  
(Kuznetsk Basin--Coal gasification, Underground)  
(Kiselevsk--Gas producers)

REVVA, V.F.

Using nonlubricated friction vibration dampers for reducing vibrations of the boring bars of a diamond boring machine.  
Trudy Od. tekhn. inst. 14:17-21 '62. (MIRA 16:12)

1. Rabota vypolnena na kafedre soproitivleniya materialov Odesskogo tekhnologicheskogo instituta. Rukovoditel' raboty - doktor tekhn. nauk, prof. Lunets. Ye.B.

REVVA, V.F.

Effect of cutting-tool yielding on the generation of vibrations  
in fine boring. Stan. i instr. 34 no.12:24-26 D '63.  
(MIRA 17:11)

REVVA, V.F.

Investigating vibrations caused by fine boring with rigid boring  
bars. Stan.1 instr. 34 no.4:24-25 Ap '63. (MIRA 16:3)  
(Drilling and boring machinery—Vibration)

REVV4, V.F.

Using dynamic vibration dampers for damping the vibration of boring bars during fine boring. Stan.1 instr. 33 no.7:20-21 J1 '62.  
(MIRA 15:7)

(Drilling and boring machinery—Vibration)  
(Damping (Mechanics)—Equipment and supplies)

S/121/62/00C/007/003/006  
D040/D113

AUTHOR: Revva, V.F.

TITLE: Dynamic vibration dampers for boring bars in fine boring processes

PERIODICAL: Stanki i instrument, no. 7, 1962, 20-21

TEXT: The suggested damper design (Fig. 1) for cantilever boring bars of small diameter eliminates vibration in bars with a 4 D ratio of up to 5. The damper is a massive steel cylinder (2) placed in a bore made in the bar end and resting in 2 belts (3) of raw rubber per Ty815-53p, p. IIIa (TU815-53r, gr.IIIa), and plasticized by heating. Recommendations: (1) the bore diameter ( $d_1$ ) should be as large as possible; (2) 1 mm space between the damper and the bore wall when  $d_1 = 6-10$  mm, 1.5 mm space when  $d_1 = 10-15$  mm, and 2.0 mm when  $d_1 = 15-20$  mm; (3) the mass of the damper should equal  $1/8$  of the mass of the boring bar; (4) the width of the rubber belts  $a = (1/6 + 1/8)l$ . The length of the damper is determined by the formula

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REVVO, Ye.B., kand. tekhn. nauk

Effect of moisture content of the regulated atmosphere in the  
heat treatment of cast iron on its enameling capacity.

Mashinostroenie no.2:79-81 Mr-Ap '65. (MERA 18:6)

L 4018/66 IIP(e)/I(i)(c)/I/IW(l)/HTI  
ACC NR: AP6019851 (N)

IIP(c) TN/ID/SD/H

SOURCE CODE: UR/0418/66/000/001/0062/0064

AUTHOR: Revvo, Ye. B. (Candidate of technical sciences)

ORG: None

TITLE: Protecting high-carbon steel from corrosion by enameling

SOURCE: Tekhnologiya i organizatsiya proizvodstva, no. 1, 1966, 62-64

TOPIC TAGS: carbon steel, corrosion protection, protective coating, chemical laboratory apparatus, ~~metal heat treatment~~, steel microstructure, pearlite

ABSTRACT: Techniques for enameling commercial and high-carbon grades of steel are discussed. These new methods make it possible to expand the selection of grades of steel for making chemical equipment, save metal by reducing wall thickness, and reduce production cost. The effect of heat treatment in protective atmospheres on the enamelability of grades 45 and St.3 steel is studied. Specimens made of these grades of steel are heat treated in controlled atmospheres before enameling. The equipment used for heat treating the specimens consists of a generator for producing the controllable atmosphere, furnace for tempering, drier, scrubber for humidifying the protective atmosphere and necessary control and measurement units. The specimens are heated and cooled in the same protective atmosphere. Metallographic analysis both before and after heat treatment shows that the microstructure of the original steel is mainly com-

UDC: 666.293

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L 46019851

ACC NR: AP6019851

posed of ferrite and pearlite. Slag products are found very rarely. The distribution of pearlite is very uniform throughout the cross section of the specimen. Study of the microstructure of the specimens after heat treatment shows partial or full decarbonization of the surface layers. The depth of decarbonization varies with the conditions of heat treatment. Tempering temperature has the greatest effect on the microstructure of the surface layers. The depth of decarbonization increases with heat treatment temperature for both St.3 and 45 grade steel. Atmospheric composition and humidity do not have a significant effect on the microstructure of the surface layers. Specimens heat treated in air are enameled to determine the effect of heat treatment in protective atmospheres on enamelability. 3132-50 primer and 2/3a enamel were used. The coating was tested with a high-frequency flaw detector at 3000, 4000, 6000 and 8000 volts, and electrolytically. The results show better enamelability as a result of heat treatment of high-carbon steel in controlled atmospheres. A 100% coating was obtained for St.3 steel products which were heat treated in protective atmospheres as compared to 50% coating for specimens which were heat treated in air. Corresponding data for 45 grade steel products are 96.6 and 55.5% respectively. Enamels were also treated to determine the effect of heat treatment in controlled atmospheres on their indices. The results show that heat treatment in protective atmospheres increases the mechanical strength and heat resistance of enamel. Heat treatment of enameled parts can be done in PS-06 and PS-08 type atmospheres at 850°C with holding at this temperature for 120 minutes. This treatment improves the physical and mechanical properties of enameled coatings. Orig. art. has: 4 tables.

SUB CODE: 11/ SUBM DATE; none

Card 2/2

REVVO, Ye.Bu., Kand. tekhn. nauk

Effect of the annealing of cast iron in a protective atmosphere  
on the quality of enamel coating. Khim. i neft. mashinostr. no.52  
3L-32 N '64 (MIRA 18:2)

REVVO, Ye.B., kand.tekhn. nauk

Feasibility of enameling cast iron after its heat treatment in  
protective atmosphere. Mashinostroenie no.1:37-38 Ja-F '64.  
(MIRA 17:7)

REVVYAGIN, E.S., slesar' po remontu avtotormoznogo oborudovaniya  
(Kazakhskaya doroga)

Improving the design of air distributors for sanding devices.  
Elek. i templ. tsiaga 14 no. 3:16 Mr '60. (MIRA 13:7)  
(Diesel locomotives--Cold weather operations)

ISMAILOV, R.G.; SULTANOV, Z.A.; ALIYEV, D.A.; Prinimali uchastiye;  
GOL'SHTEYN, G.; IVANOVA, T.; REVYAGINA, K.; GUREVICHEV, A.;  
ALIYEVA, S.; DZHAFAROVA, M.

Selecting the crude oil for the production of petroleum electrode  
coke. Khim.i tekhn.topl.i masel 7 no.2:25-29 F '62.  
(MIRA 15:1)

1. Sovnarkhoz Azerbaydzhanskoy SSR i Bakinskiy zavod "Neftegaz".  
(Petroleum coke)

SELEZNEV, A.K.; STEPUR, S.I.; Prinimali uchastiye: PONOMAREVA, G.F.;  
LITVINNOVA, L.I.; RAKITSKAYA, N.M.; REVYAGINA, M.I.

Using  $\beta$ -chloroethers in a mixture with dichlorides for low-  
temperature dewaxing of lubricants. Izv. vys. ucheb. zav.;  
neft' i gaz 6 no.4:55-57 '63. (MIRA 16:7)

1. Groznyanskij neftyanoy institut i Groznyanskij neftemaslovyy  
zavod.

(Lubrication and lubricants)  
(Ethers) (Chlorides)

REVVAKIN, A.A., referent

Origin and elimination of nitrogen oxides in coke-oven gas (from  
"Chemie et Industrie," 78 no.3 1957). Koks i khim. no.5:62-63  
(MIRA 11:6)  
158.

(Coke-oven gas) (Nitrogen compounds)

REVVAKIN, A., kand.tekhn.nauk

Four ways. Znan.sila 34 no.2:4-5 F '59.  
(Steel--Metallurgy)

(MIRA 12:3)

REVVYAKHIN, A.A., referent.

Purification of crude benzene by means of hydrogenation in Great Britain (from "Gas Journal," no. 4908 1957). Koks. i khim. no. 2: 63 '58. (MIRA 11:3)

1. Metallurgizdat.  
(Great Britain--Benzene) (Hydrogenation)

RYABIN'KIY, Bronislav Yakovlevich; ADARYUKOV, G.I., inzh., retsenzent;  
BERLYAND, S.S., inzh., retsenzent; GERASIMENKO, V.A., inzh.,  
retsenzent; GRUDSKIY, V.A., inzh., retsenzent; DASHEVSKIY,  
Ye.B., inzh., retsenzent; KARPMAN, Ya.I., inzh., retsenzent;  
KOROLEV, M.N., inzh., retsenzent; KORSAKOV, A.A., inzh.,  
retsenzent; LISENKO, T.P., inzh., retsenzent; PEKILIS, I.B.,  
inzh., retsenzent; REVYAKIN, A.A., inzh., retsenzent;  
ROMANOVICH, N.D., inzh., retsenzent; FILIPOV, S.M., inzh.,  
retsenzent; BRUSHTEYN, A.I., red.izd-va; DOBUZHINSKAYA, L.V.,  
tekhn. red.

[Planning and the economics of metallurgical plants] Planirovaniye i ekonomika metallurgicheskikh zavodov. Izd.3., perer. 1  
dop. Moskva, Metallurgizdat, 1963. 754 p. (MIRA 16:4)  
(Steel industry--Management)

Revyakin, A. A.

✓ 2126. THE CHEMICAL BRANCH OF THE COKE AND CHEMICAL INDUSTRY. Tyutynnikov, V.N., Revyakin, A.A. and Taicher, M.I. (Koks i Khim. (Coke & Chem., Moscow), 1957, (11), 10-47). An historical review, with tables showing the increase in percentage yields of tar, ammonia and benzol per ton of charge. The 1956 figures were 3.24, 0.309 and 0.976%. Illustrated descriptions are given of a mechanical clarifier for tar; a tubular gas cooker, and a centrifuge for continuous extraction of ammonia from coke oven gas. Over 70 products are now produced by the industry. (L). 3  
11

RYABIN'KIY, Bronislav Yakovlevich; BERLYAND, S.S., inzh., retsenzent; GERA-SIMENKO, V.F., inzh., retsenzent; GRUDSKIY, Ye.B., inzh., retsenzent; DASHEVSKIY, Ya.I., inzh., retsenzent; DVORIN, S.S., inzh., retsenzent; KAMALOV, O.M., inzh., retsenzent; KARPMAN, M.A., inzh., retsenzent; KASHCHENKO, D.S., inzh., retsenzent; KOROLEV, M.N., inzh., retsenzent; KORSAKOV, A.A., inzh., retsenzent; LISENKO, T.P., inzh., retsenzent; PEKELIS, I.B., inzh., retsenzent; REVYAKIN, A.A., inzh., retsenzent; ROMANOVICH, N.D., inzh., retsenzent; PRIYMAK, I.A., prof., red.; AVRUTSKAYA, R.F., red.izd-va; ISLAM'TYEVA, P.G., tekhn.red.

[Planning and economics of metallurgical plants] Planirovaniye i ekonomika metallurgicheskikh zavodov. Izd.2., dop. i perer. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1960. 736 p.

(Metallurgical plants)

*K. A. RYAKIN, n/a*  
TYUTYUNNIKOV, F.N.; RIVYAKIN, A.A.; TAYCHER, M.M.

Chemical branch of the by-product coking industry. Koks i khim.  
no.11:40-47 '57. (MIRA 10:12)

1. Gosplan RSFSR (for Tyutyunnikov). 2. Metallurgizdat (for Revyakin).  
(Coke industry)

*REVYAKIN, A.A. referent*

Eliminating carry-over from quenching towers of coke batteries  
(from "Gas journal" 290 June 26, 1957). Koks i khim. no.12:56-57  
'57. (MIRA 11:1)

1. Metallurgizdat.  
(Coke industry)

REVYAKIN, A. A.

68-11-8/11

AUTHORS: Tyutyunnikov, G.N., Revyakin, A.A., and Taycher, M.M.

TITLE: Chemical Side of the Coking Industry (Khimicheskoye  
krylo koksokhimicheskoy promyshlennosti)

PERIODICAL: Koks i Khimiya, 1957, No. 11, pp. 40 - 47 + 4 plates(USSR)

ABSTRACT: A historical survey of the development of the by-product side of the coking industry in Russia is outlined. The yield of main by-products (tar, ammonia, raw benzole) per ton of dry coal charge during 1913-1956 is shown in Table 1, and increase in the processing of tar during 1924-1956 in Table 2. There are 2 tables and 7 figures.

ASSOCIATIONS: Gosplan RSFSR and Metallurgizdat.

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REVYAKIN, A.A., referent.

Coal chemical industry of the German Federal Republic in 1955.  
Koks i khim. no.5:63 '56. (MLRA 9:10)  
(Germany, West--Coal-tar industry) (Germany, West--Coke industry)